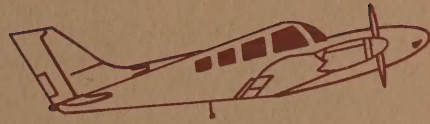


**aviation**



**ECONOMIC**

**IMPACT**

**assessment**



**Prepared By:  
NEW JERSEY DIVISION OF AERONAUTICS**

**May 1979**

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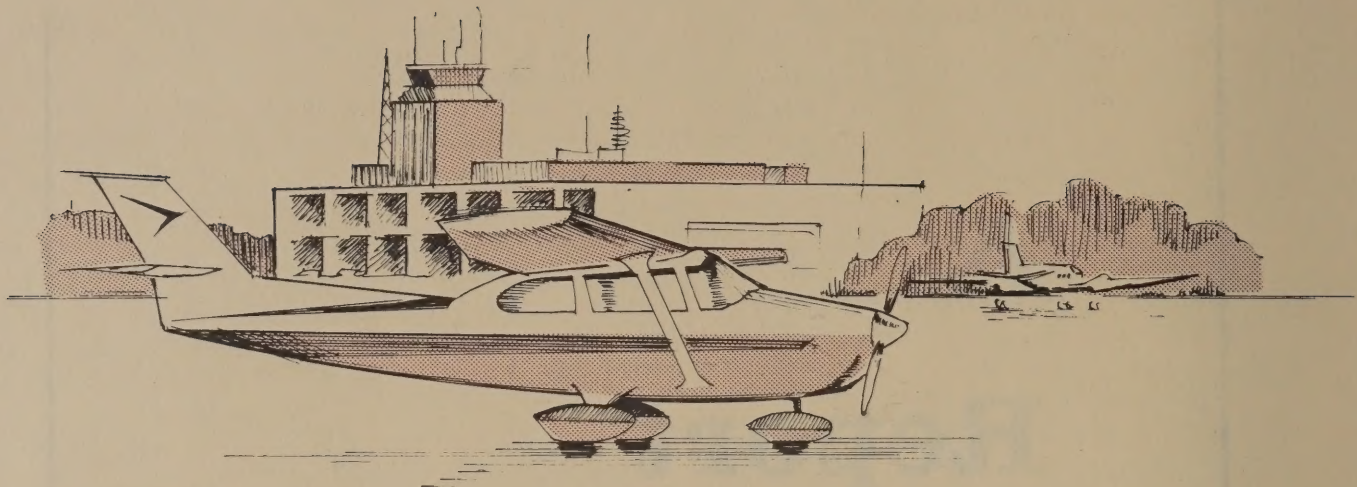




# **A Report On Economic Impact**

**For New Jersey Airports**

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# Objective

To determine the yearly economic contribution from aviation activity in the State of New Jersey.

# Executive Summary

New Jersey has 17,400 resident pilots and 3,500 based aircraft which are served by 82 public use airports and about 375 helistops. Newark International Airport, one of the most active, is the work place for 5,100 employees, with payroll and contractural services totaling \$131 million annually.

The total value of civil aircraft based in New Jersey has been estimated at \$319 million, and \$106.5 million is being spent annually to maintain, service and operate them. Eighty percent (or more) of the reported flight activity of the civil aircraft in this State is business or commercial flying.

The U.S. Government employs almost 16,000 persons, with payroll expenditures of more than \$260 million annually.

Aviation in New Jersey generates more than 26,000 jobs and \$502 million annually in direct dollar expenditure. Using a conservative economic multiplier, the impact of aviation in New Jersey exceeds \$1.5 *BILLION ANNUALLY*.



# Narrative

In November, 1978, the New Jersey Department of Transportation, Division of Aeronautics initiated a study to determine how much aviation contributes to the economy of this State each year.

Elements included in the study were general aviation costs, jobs related to aviation manufacture, research, maintenance and repair, the U.S. Government and National Guard forces, and certain elements of Newark International Airport.

The Study was begun with data from the Division's Aircraft Registration Section and from the Federal Aviation Administration. The total number of aircraft utilizing New Jersey's aviation facilities at that time was 3,500; 3,288 (about 94 percent) were piston powered, and 212 (about 6 percent) turbine powered.

A distribution of New Jersey Pilot Certificate Ratings were as follows:

Airline Transport Rating	(10%)	1,700
Commercial Rating	(24%)	4,200
Private Rating	(40%)	7,000
Student	(26%)	4,500
Total Pilots Residing		17,400

New Jersey facilities which accommodate these aircraft and pilots number 82 airports open to the public including 8 seaplane bases and about 375 heliports and helistops (mostly under corporate control).

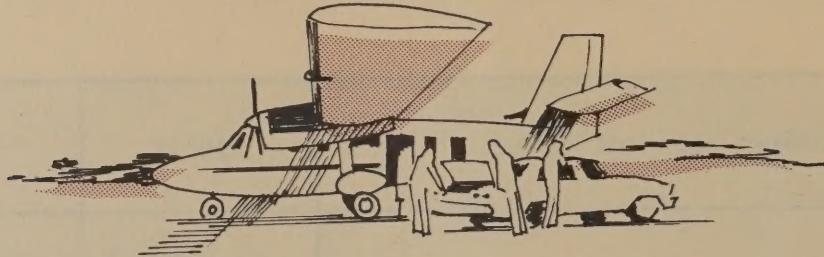
One of the easiest ways to categorize aircraft and discuss their characteristics is by engine type. For the purposes of this study aircraft were divided into three basic categories: piston, turbine, and military/airline (the military/airline are not considered aircraft permanently based in New Jersey). The specific types of aircraft were not distinguished, so that the term turbine includes fixed wing (both turbo-prop and turbo-jet) and helicopter.



# Values of General Aviation Aircraft

The estimated value of the turbine portion of the civil aviation fleet (about 6 percent of the total) is \$250 million. The piston portion of the fleet (about 94 percent) is valued at \$69 million. This is based on an average value of a turbine aircraft of approximately \$1.18 million, and average value of piston aircraft of approximately \$21,000.

Raw activity of aircraft was tabulated from records of the Aircraft Registration Section. An assessment concluded that greater than 80 percent of all activity in New Jersey is for business or commercial purposes.



## General Aviation Expenditures

Expenditures for each fleet type were also calculated. This represents the amount spent by the owners or operator in maintaining the aircraft in a useful operations condition. For operators of turbine aircraft, maintenance expenditures amounted to \$66.9 million. Costs for crew salaries and compensations amounted to an additional \$6.8 million. It was concluded that turbine aircraft operators spend about \$73.7 million annually to maintain, service, and operate their aircraft.

Annual expenditures resulting from activities of the piston fleet, as calculated from local sources, are \$25.5 million for maintenance and \$4.0 million for compensations.

Miscellaneous expenses applicable to both fleet categories include supplies, charts, calculators, medical examinations, etc., and were estimated to be \$3.3 million annually.

In summary, the expenditures by the owners or operators of the aircraft based in New Jersey approach \$106.5 million annually. A statistical comparison of these expenditures with the estimated fleet value reveals that each owner or operator spends about one-third of the value of his aircraft each year to maintain, service and operate it.

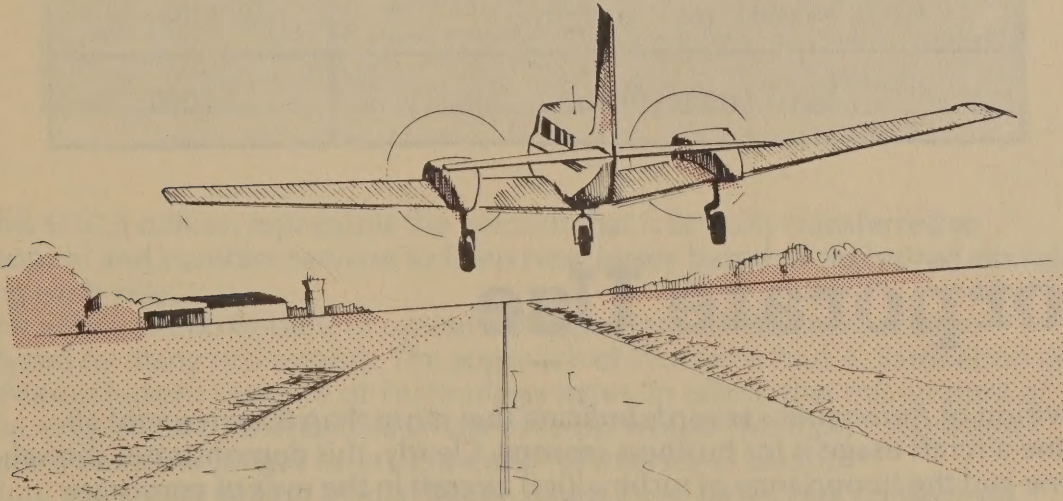


# U.S. Government Impact

Another aspect of aviation which has an economic impact in New Jersey is a result of the activity of U.S. Government involvement. The Federal Aviation Administration (FAA) employs about 1,700 civilians at the National Aviation Facilities Experimental Center (NAFEC) in Pomona in such areas as testing, research, development, and training for all segments of aviation users. The annual wage and local procurement expenditures are estimated at \$57.4 million.

The U.S. Government also maintains extensive aviation support facilities at two military air bases. Employment at McGuire Air Force Base and Lakehurst Naval Aviation Engineering Command combined is about 11,850, with annual wages and procurements of \$177 million. Other military facilities (such as the Army and Air National Guard, the Army Aviation Detachments and the Coast Guard) employ more than 2,400, with aviation-attributable wages and procurements of \$30 million annually.

In summary, the U.S. Government aviation facilities employ 16,000 persons and make expenditures of \$265 million annually.



## Newark International Airport

Newark International Airport is New Jersey's largest and only fully certified air carrier airport. In 1978, about 8.4 million passengers passed through its terminals, a significant 15 percent increase over 1977. The airport employs 5,100 persons and has an annual payroll of \$91 million. Local contractual expenditures have been estimated at \$40 million annually. While these estimates may seem high, the Port Authority of New York and New Jersey which operates the facility, expects the 1979 figures to be even higher.



# Employment Within the State

Statistics and facts on aviation employment were difficult to compile, however, the following estimates emerged from available sources:

Lakehurst & McGuire (military & civilian)	13,425
General Aviation	5,000
FAA/NAFEC	2,525
Newark Int'l Airport	5,100
Total Employment	26,050

## Corporate Use

Division of Aeronautics records indicate that more than 85 percent of all turbine aircraft usage is for business reasons. Clearly, this demonstrates the value of time and the importance of turbine (jet) aircraft in the eyes of corporate management and comptrollers.

For example, of the top *Fortune 1000* industrials throughout the Nation, 514 operate 1,773 business aircraft. Thirty-nine of the top 40 in this group operate 436 of these aircraft. This means that these "top 40" operate almost 25 percent of all business aircraft within this industrial group.

In New Jersey, at least 32 companies identified on the *Fortune 1000* list base their aircraft at four New Jersey airports: Newark, Teterboro, Morristown, and Mercer County. These companies collectively *own and operate* 62 aircraft—almost all of them turbine powered.

Among these companies are Exxon, Celanese Corporation, Texaco, Colgate-Palmolive, Gulf & Western, National Distillers, Allied Chemical, Nabisco, RCA, and Johnson & Johnson.

It is a fact that the principals and executives of corporations use the aircraft every day to increase their sales, time savings, and return on investment.



# Summary

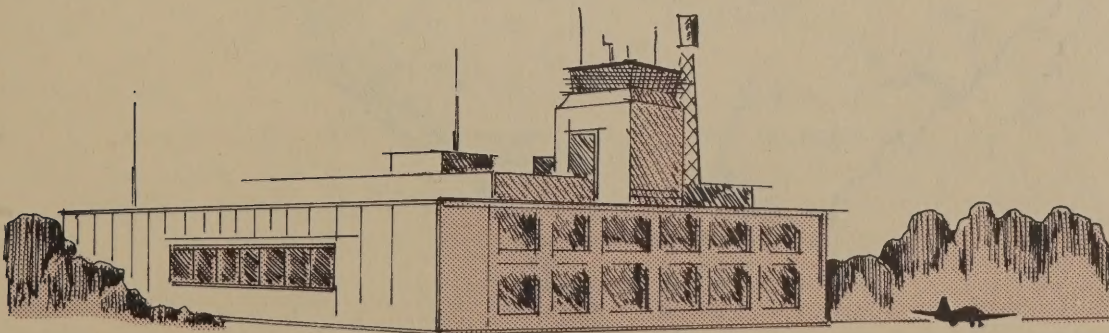
The facts and figures presented on aviation dollars spent in-State annually can be summarized as follows:

Military	\$ 207.6 million
Turbine Aircraft	66.9 million
Piston Aircraft	25.5 million
Crew Compensation & Miscellaneous	14.1 million
NAFEC	57.4 million
Newark Int'l Airport	131.0 million
Annual Total	\$502.5 million

This \$502.5 million represents the amount that is actually transferred to personnel and contract services to keep New Jersey based or registered aircraft flying each year.

The effect of this amount of capital being put into circulation has been analyzed by many economists. The approach of Professor Paul A. Samuelson at the Massachusetts Institute of Technology states, in effect, that this amount of dollar expenditure (salaries and procurements) would "multiply" three times before it could no longer be attributed to New Jersey aviation.

Thus, the \$502.5 million annual figure, when these factors are considered, results in an economic stimulation effect well in excess of \$1.5 billion.





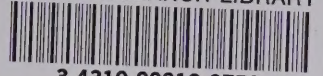
# New Jersey Airports



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